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Environmental Issues Relating to Training Troops at Fort Irwin

by
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The Fiscal Year 1996 Fort Irwin, CA, Environmental Compliance Assessment System assessment identified problems with procedures for handling Petroleum, Oils, and Lubricants (POL) used in the Rotational Unit Field Maintenance Area (RUFMA). Problems identified included unlabeled containers, scattered storage of materials and waste, and no tracking of materials or waste.

As a result of these recognized problems, U.S. Army Forces Command (FORSCOM) decided to investigate the environmental processes and activities associated with the troops training at Fort Irwin, the Fort Irwin Environmental Office, the RUFMA, and the Direct Support Area (DSA).

A team of three FORSCOM representatives and two U.S. Army Corps of Engineers Construction Engineering and Research Laboratories (USACERL) representatives visited the site on 18-19 June 1997 and interviewed members of the Fort Irwin Department of Public Works (DPW), rotational unit command personnel, rotational unit environmental personnel, employees of the onsite hazardous waste disposal contractor, the White Cell team leader, and rotational unit personnel working in the RUFMA and DSA.

This report details the problems noted and solutions suggested, which are projected to reduce costs, the workload for rotational units, the stress on host-installation staffs, and environmental impacts throughout the National Training Center ranges and Fort Irwin.

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Foreword

This study was conducted for U.S. Army Forces Command (FORSCOM) under Military Interdepartmental Purchase Request number W31XNJ71057547. The FORSCOM technical monitor was David Ruddock, Environmental Branch.

The work was performed by the Environmental Processes Division (PL-N) of the Planning and Management Laboratory (PL), U.S. Army Construction Engineering Research Laboratories (USACERL). The USACERL principal investigator was Donna Schell, and the associate investigator was Carolyn O'Rourke. Jerry Benson is Acting Chief, CECER-PL-N, and L. Michael Golish is Acting Operations Chief, CECER-PL. The USACERL technical editor was Linda L. Wheatley, Technical Information Team. Representatives from Headquarters, FORSCOM included Dave Ruddock, Cody Jackson, and Mitch Cohen.

Dr. Michael J. O'Connor is Director of USACERL.

Contents

1 Introduction

Background

In Fiscal Year 1996, the Fort Irwin, CA, Environmental Compliance Assessment System (ECAS) assessment identified problems with procedures for handling Petroleum, Oils, and Lubricants (POL) used in the Rotational Unit Field Maintenance Area (RUFMA). Problems identified included unlabeled containers, scattered storage of materials and waste, and no tracking of materials or waste.

As a result of these recognized problems, U.S. Army Forces Command (FORSCOM) decided to investigate the environmental processes and activities associated with the troops training at Fort Irwin, the Fort Irwin Environmental Office, the RUFMA, and the Direct Support Area (old "Class 9" yard).

Approach

To accomplish this investigation, FORSCOM put together a team of three FORSCOM representatives and two U.S. Army Corps of Engineers Construction Engineering and Research Laboratories (USACERL) representatives. During the site visit on 18-19 June 1997, the rotational unit was from Fort Lewis, WA. Table 1 lists the team members.

The team interviewed members of the Fort Irwin Department of Public Works (DPW) with environmental responsibilities, rotational unit command personnel, rotational unit environmental personnel, employees of the onsite hazardous waste disposal contractor (HAZCO), the White Cell team leader, and rotational unit personnel working in the RUFMA and Direct Support Area. The team visited the RUFMA, the Direct Support Area, the HAZCO premises, and the DPW. The team also reviewed existing environmental training materials.

Table 1. Fort Irwin site visit team members.

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Objectives

The goals of this team were to look at processes during operations in the RUFMA to discover standard operating procedures (SOPs) that will:

- reduce the environmental impact
- save dollars for hazardous waste disposal
- improve the life of the soldier.

2 Training at Fort Irwin

Material Procurement and Processing Practices

Before arrival for training, a scoping visit is made to Fort Irwin by the command level of the training troops, and materials are ordered from the Material Management Center (MMC).

When troops arrive at Fort Irwin, they undergo a series of briefings to prepare for the rotation. The White Cell group (responsible for spill cleanup) undergoes an 8-hr environmental training class to prepare them for their activities as spill responder/cleanup teams. Command-level personnel receive an environmental briefing. Currently, however, no environmental briefing is given to the troops by the Fort Irwin Environmental Office.

The troops go to the Draw Yard to pick up their vehicles. When they check out the vehicles, they add fluids, if needed, and perform any required maintenance. The addition of fluids and maintenance usually occurs in the Draw Yard.

Hazardous materials (i.e., POLs) are drawn from the "Class 9" yard. The unit determines and orders the amount of materials it will need from the MMC. There are no inventory controls.

Once deployed, units are required to segregate and manage their waste in an environmentally appropriate manner. Typical wastes include: trash, food waste, waste POLs, and recyclables. While deployed, the areas typically impacted are the airfield by Bicycle Lake, the range area, and ammunition supply points.

Normally, when coming out of the field, everyone comes to the RUFMA and unloads the vehicles. Unopened Class 3 substances go to the Direct Support Area. Materials drawn from Fort Irwin that are not used are returned to the CONEX containers in the Direct Support Area at Fort Irwin for use by other Rotations.

While in the RUFMA, accumulation points are set up for collection of hazardous waste, unused materials, and recyclables. Rotation personnel are assigned to manage the accumulation points, which are clustered together in one section of the RUFMA. The hazardous wastes go to an onsite contractor (HAZCO), the recyclables to the Fort Irwin recycling yard. Open and used material are utilized in the final maintenance of the vehicles in the RUFMA. Rotation personnel are responsible for delivering the hazardous wastes and recyclables to the appropriate drop-off points.

Once in from the field, the White Cell group flies a helicopter over the site looking for spills. After cleaning up any spills, a walking crew covers the area looking for spills not seen from above. Areas inspected are the RUFMA, the Rotational Unit Bivouac Area (RUBA), and the training areas.

Good Practices and Ideas Encountered

During the site visit, the research team found a variety of ideas and actions that facilitate improved environmental management:

- The Fort Lewis Brigade assigned an Environmental Coordinator (EC) to the troops to serve as a technical advisor and interface with the Fort Irwin environmental office and HAZCO.
- The Fort Lewis Brigade EC came to Fort Irwin as part of the scoping visit.
- The Fort Lewis Brigade EC developed a training program in conjunction with Fort Irwin staff for training the soldiers before their arrival at Fort Irwin.
- The Fort Lewis Brigade EC walked through the RUFMA looking for trash and improper practices during the maintenance operation.
- HAZCO employees are willing to talk walk-ins through the turn-in process (this practice needs to become a part of the in-brief for troops.)
- Fort Lewis instituted a 1-day drive-through turn-in line for off-loading all hazardous wastes, solid wastes, hazardous materials, and recyclables.
- Fort Irwin set up a fluid addition point for the vehicles from the Draw Yard outside the gate of the Draw Yard.
- No POL cans are allowed to sit on the ground.
- An after-action report is being written by the Fort Lewis Brigade EC.

3 Summary of Findings and Recommendations

Summary of Findings

The problems and solutions described in Table 2 represent observations made during the site visit to Fort Irwin on 18-19 June 1997.

Table 2. Problems and suggested solutions for environmental issues.

Problems	Suggested Solutions
Lack of communication on environmental issues between the host Environmental Office and the troops training there. Communication difficulties internal to the Environmental office also exist. For example, the individual implementing the Haz Mat Pharmacy does not appear to be communicating with the Hazardous Waste coordinator, the recycling manager, or representatives from Logistics.	• Designate a Fort Irwin POC for environmental concerns for the Rotation. (I) • The training troops should bring a Brigade Environmental person. (R, F, I) • Re-institute the troop environmental in-brief. In addition to spill training it must address: (I) – how to segregate their waste – turn-in procedures – who and when to call • A handout of what types of waste go where and who to call for what. (I) • Use Fort Lewis training as a model for pre-brief prior to arrival at Fort Irwin by training troops. (R, F) • Improve the communication process within the Fort Irwin Environmental Office. (I) • Redesign the soldiers field card so that the Environmental POC's number is more obvious and the headings are more reflective of the content. (I, R)
No tracking or comparison of what is being issued and what is being turned in during the rotation.	• Institute an inventory control system (e.g., bar code) to track what happens to all the materials issued to the troops on Rotation. This system could also be used to verify the accuracy of billing to the Rotation for wastes they actually produced. Plus, tracking those responsible for abandoned items and determining reasonable amounts of materials being issued will lead to significant cost savings. (I. F)
Difficulty of access to spill cleanup materials.	• Have spill kits prepositioned at the RUFMA, the Class 9 yard, and on fuel trucks deployed to the field. When applicable, kits should include spill pads, absorbent, flexible drip pans, rags, aprons, gloves, bung wrenches, and round and square shovels. Items should be provided by Fort Irwin and billed to the unit. (F, I)
Material left behind for other Rotations to use, and not being monitored for expiration/deterioration (CONEXs in Class 9 area contain batteries and 111 trichloroethylene).	• Nondurable materials should not be stored in this area. Instead they should be returned to the MMC or a designated area that is monitored. Additionally, any area used for storage of these types of substances must meet appropriate environmental and safety regulatory requirements.

Problems	Suggested Solutions
The White Cell group did not arrive in time to be fully operable when the Rotation activity began.	• Determine how far in advance the White Cell group needs to be onsite and their exact duties/responsibilities. (I, R)
The White Cell is typically a player in the exercise, not a separate group.	• Have White Cell not participate in the training exercise but still report to the Brigade. There should be a permanent liaison between the DPW and the White Cell. (I, R)
No access to clean up spills.	• Develop SOPs for access to spills defined by spill sizes during training exercise. (I, NTC)
Complaints on what the Rotation troops have to bring with them to support themselves.	• Develop a handout of POCs for supplies, environment, and waste disposal to be handed over at the scoping meeting. Provide a list of supplies that can be ordered from Fort Irwin. (I)
The Brigade has no general use vehicles assigned to it.	• Assign a truck to the troops on rotation for transporting recyclables to the recycling area, etc. (I)
While the hazardous waste pads are clearly designated in the RUFMA, the pads for solid waste, recyclables, and usable materials are not clearly defined.	• Set up three sheds in the RUFMA for a Haz Mat Pharmacy for: – reissue of usable materials – hazardous waste gathering – spill response supplies and PPE. (F)
Discrepancy between types of equipment required by FORSCOM and Fort Irwin in the Class 9 area.	• Resolve the discrepancy, or • Predeploy the equipment.. (I, F)
No secondary containment in the Class 9 area; because of damaged containers, there is a high probability for leaks developing here.	• Provide secondary containment in the Class 9 area. (I) • Develop a standard for the operation of the Class 9 area (signs, containment, etc). (I, F)
No standard procedures for sorting and turn-in of waste and materials.	• Develop a standardized approach for waste separation. Set up a drive-through drop off and sort point for 1 day when coming in from the field. (I)
Long walks to dispose of hazardous waste or to return unused materials.	• Examine the viability of incorporating permanent accumulation points in the redesign of the RUFMA. This redesign needs to consider the differences in the rotational units. The redesign needs to also account for adequate permanent lighting, ramps to facilitate vehicle maintenance, and whether or not paving the entire area will create a heat exposure hazard. (I, F)

F - FORSCOM

I - Fort Irwin

R - Rotational Unit

NTC - National Training Center

Additional Recommendations

- As the processes and procedures are changed at Fort Irwin, the Integrated Training Area Management (ITAM) briefing needs to be updated to reflect accurate information.
- Examine the identified good practices for implementation as SOPs.
- Brief each unit on hazardous-waste and hazardous-materials handling in the RUFMA as it comes in from the field. This briefing should be mandatory. Throughout the training exercise, environmental issues pertinent to the activity occurring should be briefed. Do not brief everything at the initial check-in because much of the handling information will be forgotten 3 weeks into the training.

Implementation

The FORSCOM Engineer supports the concept that more standardization during rotations through the RUFMA may reduce costs, the workload for rotational units, the stress on NTC/Fort Irwin staffs, and environmental impacts throughout the NTC ranges and Fort Irwin. The FORSCOM Environmental Branch will coordinate with FORSCOM DCSOPS/DCSLR and work closely with the NTC and Fort Irwin staffs to assist in implementing potential solutions that show merit (according to the priorities set by NTC).

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